



Identifying Resident Birds

On-Site Activities

What Is the Diversity of Birds Found at Point Reyes National Seashore?	81
How Can I Capture My Experiences in a Story, Poem, or Drawing?	101
How Can I Participate in Bird Banding at Point Reyes Bird Observatory?	105
How Can We Inspire Others to Protect Birds and Their Habitat?	109

What Is the Diversity of Birds Found at Point Reyes National Seashore?



On-site Lesson Plan

Students will observe birds found within Point Reyes National Seashore and use a variety of clues to identify specific individuals. Field notes recorded by students will also include habitat information for a clearer understanding of bird ecology. This link between birds and their habitats will be further explored back in class with the first post-visit lesson.

Time required: 2 hours

Location: Bear Valley Visitor Center and select trails

Suggested group size: small groups of 5 or 6 students each

Subject: ornithology

Concept covered: bird identification

Written by: Lynda Doucette and Daisy Martin, National Park Service

Last updated: 07/06/01

Student Outcomes

At the end of this activity, the students will be able to:

- Identify one or two of the birds in the Bear Valley Visitor Center exhibit
- Identify common birds of Point Reyes National Seashore and their specific behaviors and habitats

California Science Standards Links (grades 6-8)

This activity is linked to the California Science Standards in the following areas:

- 6th grade
- 5a - energy entering into ecosystems as sunlight is transferred by producers into chemical energy through photosynthesis, and then from organism to organism in food webs
 - 5b - organisms and the physical environment
 - 5e - the number and types of organisms an ecosystem can support depend on the resources available and abiotic





factors, such as quantity of light and water, range of temperatures, and soil composition

7b - appropriate tools and technology to perform tests, collect and display data

7th grade 5a - the anatomy and physiology of plants and animals illustrate the complementary nature of structure and function.

7a - appropriate tools and technology to perform tests, collect and display data

National Science Standards Links (grades 5-8)

This activity is linked to the National Science Standards in the following areas:

- Content Standard A - Use appropriate tools to gather, analyze, and interpret data; Think critically and logically to make the relationships between evidence and explanations
- Content Standard C - Structure and function in living systems; Diversity and adaptation of organisms

Materials

To be provided by the teacher:

- Pencils
- Clipboards
- Field Journals for each student, teacher, and chaperone

Available for checkout at Bear Valley Visitor Center:

- Residents Bird Kit

Vocabulary

crown, habitat, mandible

Procedures

Note: This field trip consists of two parts: a visit to the Bear Valley Visitor Center and activities on a nearby trail.

Bear Valley Visitor Center Activity

1. Orientation

The Visitor Center has running water and restrooms available and this is the place to pick up your reserved Resident Bird Kit at the desk. Instruct students to use their "library voices" while inside Visitor Center. Explain that the Visitor Center is divided into habitats found in the Park with their corresponding plants and animals.



Note: This is a great opportunity to purchase the *Field Checklist of Birds for Point Reyes National Seashore* at the Bear Valley Visitor Center bookstore. It will be useful for your time at the Seashore and for the post-visit lesson for this activity.

2. Describe Activity

Students will form smaller groups and locate a taxidermy bird in the exhibits. As a group, they will answer the questions found on the **Bear Valley Visitor Center Birds** Field Journal Sheet. Each group will be responsible for locating and answering questions for two birds in the exhibit.

When students are finished answering the questions, they may borrow a bird identification book from the information desk to discover the names of the bird.

3. Review

Teachers or chaperones should borrow a bird identification guide from a park ranger (there are some located behind the information desk). Walk through the exhibit with the entire group. Ask students to identify birds based on answers from their sheets. Note the specific habitat for each bird. Point out the bird and the bird illustrations in the book. Ask students to relate the easiest way to remember particular birds (i.e., turkey vultures have red heads.)

Field Observation Activity

4. Locate Trail

Ask a Park Ranger for specific directions to one of the following trails:

Woodpecker Trail

Horse Trail (lower area of trail)

Bear Valley Trail

Kule Loklo Trail

Rift Zone Trail

(if at Clem Miller Education Center, consult with Director)

5. Form Student/Chaperone Groups

Form smaller groups with chaperones and students. Decide if the entire class will be strung out along one trail, or if smaller groups will use different trails and meet back at the bus at a specific time. Review the first sheet of the field journal **Things to Remember While on Resident Bird Field Trip** for safety precautions.

6. Hike Trail

As students hike the trail, instruct them to be on the lookout for birds or signs of birds. Students will complete pages of their field journal based on these observations.

7. Regroup and Return Home

Return the Bird Kit to the Bear Valley Visitor Center before 5:00 p.m. when the center closes.



Things to Remember While on Resident Birds Field Trip

Three safety precautions:

1.

2.

3.

Four resource protection behaviors:

1.

2.

3.

4.

If I were a bird, I would want...

1.

2.

3.



Code of Birding Ethics

Everyone who enjoys birds and birding must always respect wildlife, its environment, and the rights of others. In any conflict of interest between birds and birders, the welfare of the birds and their environment come first.

- Promote the welfare of birds and their environment.
- Support the protection of important bird habitat.
- To avoid stressing birds or exposing them to danger, exercise restraint and caution during observation or photography.
- Keep well back from nests and nesting colonies, roosts, display areas, and important feeding areas.
- Stay on roads, trails, and paths where they exist; otherwise keep habitat disturbance to a minimum.
- Respect the law and the rights of others.
- Do not enter private property without the owner's explicit permission.
- Ensure that feeders, nest structures, and other artificial bird environments are safe.
- Keep dispensers, water, and food clean and free of decay or disease.
- Maintain and clean nest structures regularly.
- If you are attracting birds to an area, ensure the birds are not exposed to predation from cats, and other domestic animals, or dangers posed by artificial hazards.
- Group birding, whether organized or impromptu, requires special care.
- Keep groups to a size that limits impact on the environment and does not interfere with others using the same area.

Courtesy of American Birding Association



Watch Out for These Three Things...

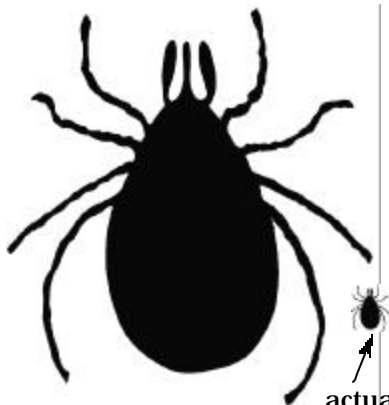
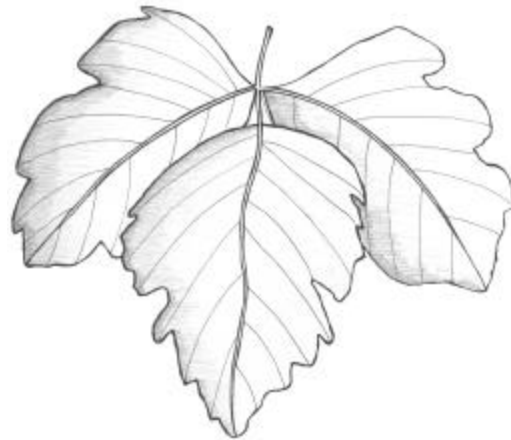


Stinging nettle

Stinging nettle is a tall plant with needlelike hairs, which can create a burning or stinging sensation for up to 24 hours. If you see this plant, do not touch it.

Poison oak

Poison oak has three smooth, shiny leaflets which are bright green or reddish. It can grow up trees as a vine, as a small bush, or as a small ground cover plant. Poison oak causes an itchy, blistering irritation which can last for one to two weeks. Even when leaves are not present, it is possible to get poison oak. Wash all skin and clothing that may have come in contact with poison oak with cool water and a grease-cutting soap.



Ticks

Ticks carrying Lyme disease are found at Point Reyes National Seashore. Check your body after a hike. Wear light colored long pants and shirts to help find ticks. Tuck your pant legs into your socks.

actual size



Field Journal Sheet

Bear Valley Visitor Center Birds

Physical descriptions of birds are included in bird-watching field guides and often help observers identify birds they do not know by describing their appearance in detail. To practice looking for the unique traits found in each bird, you will choose a mounted bird in the Bear Valley Visitor Center display and write down your observations on this worksheet.

BIRD #1

Face: Describe the characteristics of the face (colors, mask, whiskers, eye ring, eye brow)

BIRD #1

Throat: What colors are present on the throat? What is the pattern of feathers (stripes, spots, solid)?

BIRD #1

Belly: What is the color of the belly? How does it change from top to bottom?

BIRD #1

Mandible: Describe the beak in detail (shape, color, flat etc.).

BIRD #1

Crown: Describe the top of the bird's head. Does it have a different pattern from the body?



Field Journal Sheet

BIRD #1

Back: Are the back feathers one color or many? Describe the plumage.

BIRD #1

Wing: Do you see a pattern of colors on the wing? Describe the colors and location on the wing.

BIRD #1

Rump: Is the rump a different color compared to the back or wings? Describe the colors.

BIRD #1

Tail: How is the color of the tail different from the front and back of the bird? Are the tail feathers pointed or blunt-tipped?

BIRD #1

Using a field guide from the information desk, identify your bird:

Common name:

Scientific name:

Preferred habitat:



Field Journal Sheet

Bear Valley Visitor Center Birds

Physical descriptions of birds are included in bird-watching field guides and often help observers identify birds they do not know by describing their appearance in detail. To practice looking for the unique traits found in each bird, you will choose a mounted bird in the Bear Valley Visitor Center display and write down your observations on this worksheet.

BIRD #2

Face: Describe the characteristics of the face (colors, mask, whiskers, eye ring, eye brow)

BIRD #2

Throat: What colors are present on the throat? What is the pattern of feathers (stripes, spots, solid)?

BIRD #2

Belly: What is the color of the belly? How does it change from top to bottom?

BIRD #2

Mandible: Describe the beak in detail (shape, color, flat etc.).

BIRD #2

Crown: Describe the top of the bird's head. Does it have a different pattern from the body?



Field Journal Sheet

BIRD #2

Back: Are the back feathers one color or many? Describe the plumage.

BIRD #2

Wing: Do you see a pattern of colors on the wing? Describe the colors and location on the wing.

BIRD #2

Rump: Is the rump a different color compared to the back or wings? Describe the colors.

BIRD #2

Tail: How is the color of the tail different from the front and back of the bird? Are the tail feathers pointed or blunt-tipped?

BIRD #2

Using a field guide from the information desk, identify your bird:

Common name:

Scientific name:

Preferred habitat:



Habitat Key

Use the information in the chart below to see if you can determine in which habitat you are presently located. When you have made your best decision based on your observations, circle the name of the habitat.

	Coastal Scrub	Riparian	Mixed Woodland	Estuary	Beach/Dunes	Tidepools
Soil Moisture	DRY less than 28 inches rain/year	VERY WET (usually year- round)	MOIST to DRY receives up to 40 inches rain/year	VERY WET influenced by tides	VERY DRY	No soil; rocky foundation
Soil Characteristics	Hard, solid	Muddy	Loose soil with decaying plants	Muddy, salty	Loose, sandy	Underwater
Weather/Winds	Receives high winds and summer fog	Floods; heavily influenced by rain and runoff	Trees provide shelter from weather	Influenced by floods, coastal storms, and tides	Influenced by coastal storms and tides	Influenced by coastal storms and tides
Exposure	Fully exposed	Often shaded by fast-growing trees	Heavily shaded by large trees and thick understory	Only exposed during low tides	Fully exposed; windswept	Only exposed during low tides
Terrain	Flat or hilly; along western side of Inverness Ridge and near ocean	Along creeks and drainages	Along Inverness Ridge and its eastern slope	Flat tidal zones	Gently sloping from ocean to dunes	Flat and rocky
Dominant Plants	coyote bush bush lupine cow parsnip hemlock yarrow	red alder stinging nettle bracken fern blackberry horsetail	coast live oak Douglas fir tree California bay elderberry poison oak	eelgrass	dune grass dune lupine beach strawberry saltbush	sea lettuce eelgrass Turkish towel kelp
Common Wildlife	black-tailed deer coyote garter snake cottontail rabbit turkey vulture California quail	raccoon Pacific tree frog coho salmon steelhead trout banana slug rough-skinned newt	black-tailed deer pocket gopher acom woodpecker turkey vulture California quail banana slug	great blue heron northern harrier duck osprey harbor seal bat ray	willet marbled godwit harbor seal snowy plover western gull mole crab	anemone chiton sea star kelp crab barnacle mussel



Field Journal Sheet

Bird Observation Chart				
Your name:				
Temperature:				
Estimated cloud cover:				
Estimated wind speed:				
LOCATION: tree, bush, ground, sky, etc.	PHYSICAL DESCRIPTION: describe main features	BEHAVIOR: foraging, preening, flying, flocking, perching, displaying, calling, singing, courtship	COUNT: individual or group	SKETCH OF BIRD:



Field Journal Sheet

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Your name:

Temperature:

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Field Journal Sheet

Bird Observation Chart

Your name:

Temperature:

Estimated cloud cover:

Estimated wind speed:

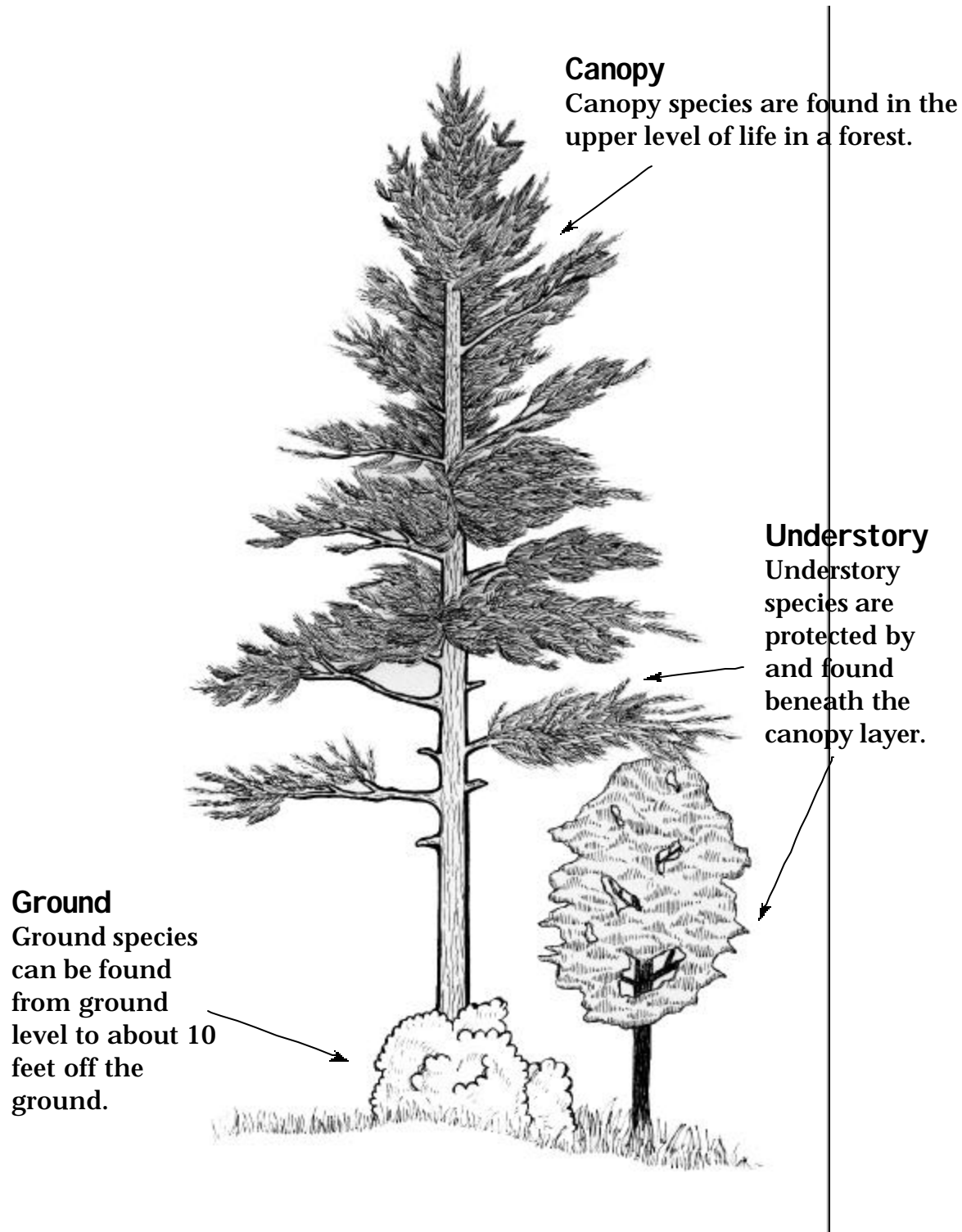
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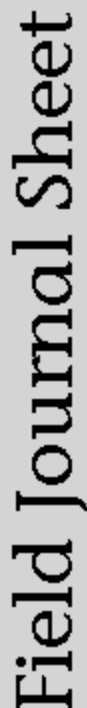


Layers of Forest Life

Where are you seeing birds?

Spend 10 minutes sitting quietly looking and listening for birds. Mark the area where you believe the birds are located according to the picture below. If you can identify the birds, add their names.





Use the area below to sketch where you found at least one bird from a “bird’s-eye-view.” Include any areas of water, hiking trails, downed trees, people, or other items in the landscape.

This image shows a full page of blank graph paper. The grid consists of thin, light gray horizontal and vertical lines that intersect to form small squares across the entire surface. There are no margins, text, or other markings on the paper.



Field Journal Sheet

Evidence Hunt

Sometimes you are not able to see birds when you go bird watching. However, if you look and listen carefully, you will find evidence of birds all around you. Keep track of the different types of bird evidence you encounter during your bird watching expedition. Mark off how many times you encounter each piece of evidence in the appropriate box below.

Eggs or Egg Shells	Holes in Trees	Feathers	Sound of Flight
Bones	Interested Cat or Other Predator	Carcass Picked Clean	Tapping or Scratching Sounds
Partial Insects or Animals	Acorns in Trees	Your Choice! Name it:	Pellets
Scat or Droppings	Song or Call	Half-Eaten Berries	Nest or Nest Materials
Bird Footprints	Clucking or Cooing	Branch or Twig Moving	Empty Seed Husks

How Can I Capture My Experiences in a Story, Poem, or Drawing?



On-site Lesson Plan

Students will use their experience bird-watching to create a story, poem, or drawing. Drafts or sketches may be made in their field journals and final writings or drawings completed in class. Students or teachers are able to choose which activities will be completed.

Time required: ½ hour

Location: on-site/classroom/homework

Suggested group size: entire class

Subjects: creative writing; science, language arts

Concepts covered: poetry; creative writing

Written by: Melinda Repko, National Park Service

Last updated: 12/08/00

Student Outcomes

At the end of this activity, the students will be able to:

- Reflect on their experiences by sharing a poem, story, or drawing
- Make emotional connections to the resources

Materials:

To be supplied by teacher:

- Extra paper to be included in field journal

To be photocopied from this guide:

- **How Can I Capture My Experiences in a Story, Poem, or Drawing?** Field Journal Sheet

Procedures

1. Include a copy of the **How Can I Capture My Experience in a Story, Poem, or Drawing?** Activity Sheet in each student's journal.
2. Either choose an activity for students to complete or have students decide which they would like to complete.
3. Allow at least one-half hour to complete this activity in the field. Students may refine their work once back in class.

Creating
COASTAL
STEWARDSHIP
through Science





Extension Ideas

1. Have students complete a variety of the activities, creating a booklet of their creative work.
2. Using canvas material and tempera paint, have students create a mural of their experiences bird-watching in Point Reyes National Seashore.



How Can I Capture My Experiences in a Story, Poem, or Drawing?

Choose one of the following activities. Use blank paper in your field journal to complete your work.

1. Create a Haiku

A three-line poem originating in Japan based on syllables - not rhyming.

Line 1: five syllables
Line 2: seven syllables
Line 3: five syllables

2. Create a Diamante

This five-line poem is displayed in the shape of a diamond.

Line 1: noun
Line 2: adjective adjective
Line 3: participle participle participle participle
Line 4: noun noun noun noun
Line 5: noun

3. Freestyle Poem

A poem can rhyme or not rhyme. It can be many words or few. The only limitation is your imagination!

4. Create an Outline-Creation

Draw the outline of a bird in pencil. Use the outline as a guide to write your words on...OR use the outline as a guide to write your words in.

Use words or sentences that describe its characteristics. Hint: if you draw in pencil and write in pen, you can carefully erase the pencil when the ink dries.

5. Create a Comic Strip

Think about the different events that took place while you were looking for birds. Create a comic strip depicting one of these events. Don't forget to give your comic strip a title.

How Can I Participate in Bird Banding at Point Reyes Bird Observatory?



On-site Lesson Plan

The Point Reyes Bird Observatory is one of the premier long-term ornithological research facilities in the western United States. A class visit will allow your students to observe ongoing research first hand.

Time required: 1 to 2 hours

Location: Point Reyes Bird Observatory

Suggested group size: entire class

Subjects: science and research

Concepts covered: bird banding and netting

Written by: Melissa Pitkin, Point Reyes Bird Observatory

Last updated: 07/07/01

Student Outcomes

At the end of this activity, the students will be able to:

- Understand the significance of bird research
- Explain how bird banding is done

National Science Standards Links (grades 5-8)

This activity is linked to the National Science Standards in the following areas:

- Content Standard A - Understanding about scientific inquiry
- Content Standard C - Populations and ecosystems
- Content Standard G - Nature of science

Procedures

1. Review the following Teacher Information sheet to decide if a visit to Point Reyes Bird Observatory is an option for your class.

Extension Ideas

1. Consider visiting The Golden Gate Raptor Observatory at the Marin Headlands. Every autumn, thousands of migrating birds of prey appear over the Golden Gate near San Francisco. For more information call (415) 331-0730 or visit www.ggro.org.



Visiting Point Reyes Bird Observatory



Field Journal Sheet

Description:

Point Reyes Bird Observatory's Palomarin Field Station, located near the end of Mesa Road, north of the town of Bolinas in western Marin County, is one of the premier long-term ornithological research facilities in the western United States. Throughout the year we open our mist nets (fine mesh nylon nets) during the morning hours to capture wild songbirds which are brought into our banding lab for banding and measurement, and then released unharmed a few minutes later. What makes Palomarin truly unique is its accessibility and open-door policy for the public. This is one of the few places in the country where members of the general public, school classes and groups of all ages can observe an ongoing research program firsthand, learning from the biologists and professional interpreters about birds and the nature of conservation biology research. Visitors are invited to accompany the biologists on a short loop trail as they check the nets and extract captured birds, and may then observe procedures in the banding lab. This opportunity to see living warblers, finches, sparrows, jays, and other species at extreme close range while learning about their anatomy, physiology, ecology, and identification from professionals is a very special experience. It can also be an extremely powerful tool for building an interest in and an appreciation of birds, wildlife conservation, and the biological sciences in general.

When:

The optimum time of year to visit the Field Station, for weather and number of birds, is between the months of April and October; winter visits are possible by special arrangement.

How:

Drop-in visitors (groups of seven or fewer) are always welcome but may wish to call to check on current conditions. Larger groups should schedule a tour ahead of time. Nets are closed, sometimes on short notice, by rain, heavy fog, or strong winds. To schedule a tour or check weather conditions call the Education Specialist at (415) 868-0655.

Visit www.prbo.org to learn more about the Point Reyes Bird Observatory.

How Can We Inspire Others to Protect Birds and Their Habitat?



On-site Lesson Plan

Students will videotape birds during their field trip, and use the video to foster stewardship with elementary classes or via local programming.

Time required: 15 minutes on field visit, various amounts of time depending on strategy

Location: Point Reyes National Seashore/ classroom

Suggested group size: small groups

Subject: language arts

Concept covered: stewardship education

Written by: Trudie Behr-Scott, Novato School District

Last updated: 03/2/00

Student Outcomes

At the end of this activity, the students will be able to:

- Formalize a presentation on birds

National Science Standards Links (grades 5-8)

This activity is linked to the National Science Standards in the following areas:

- Content Standard F - Populations, resources, and environments: Causes of environmental degradation and resource depletion vary from region to region and from country to country; Risks and benefits: Important personal and social decisions are made based on perceptions of benefits and risks

Materials

To be provided by the teacher:

- Camcorder with tape and charged battery to be used on visit

Vocabulary

stewardship





Procedures

1. Research local public access channels. Most are required to show 20 minutes/month local programming. OR identify other elementary classes that would be interested in viewing a presentation on birds created by your class.
2. Secure camcorder/tape for day of field visit. One adult chaperone could rotate the camcorder to each of the groups for 5-10 minutes of videotaping. (If you have access to editing equipment, students may tape longer segments).
3. Back at school, have students create a dialogue (to be superimposed on video images) discussing some of the following points.

Why is Point Reyes National Seashore a good place to see birds?

What are some threats to birds and their habitat?

What can we do to protect birds?

What was the most enjoyable aspect of viewing birds?

What do we mean by stewardship?

What have we done already to help birds?

What would we like to be able to do in the future?

Extension Ideas

1. When have videotaped images in the past been used to persuade populations? (W.W.II, Echo Park Dam Controversy at Dinosaur National Monument, commercials, television)